UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,999	08/23/2005	Johan Loccufier	234918	2402

23460 7590 01/08/2007

LEYDIG VOIT & MAYER, LTD
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

EXAMINER	
ZIMMERMAN, JOSHUA D	
ART UNIT	**PAPER NUMBER**
2854	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,999	LOCCUFIER ET AL.	
	Examiner	Art Unit	
	Joshua D. Zimmerman	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,19 and 21-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,19 and 21-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-9, 13, and 21-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Umeda et al. (JP 05-127402 A).

Regarding claims 1-8, 13, and 21-25, refer to the polymer identified by "(II) - 105" by Umeda et al.

Regarding claim 9, refer to the polymer identified by "(II) - 127" by Umeda et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6, 9-12, 14-15, 19, 21-28, and 31-37 are rejected under 35 U.S.C. 103(a) as being anticipated by Kunita et al. (US 2001/0009129) in view of Kinsho et al. (US 5,837,785).

Regarding claim 1, Kunita et al. disclose "a polymer comprising ... a group having the structure --S-$(L)_k$-Q wherein S is covalently bound, wherein L is a linking group, k is 0 or 1 and q comprises a heterocyclic group (paragraphs 193 and 197)."

Kunita et al. fail to disclose that the polymer comprises a "phenolic monomeric unit wherein the phenyl group of the phenolic monomeric unit is substituted by" the specified group and that "wherein S is covalently bound to a carbon atom of the phenyl group." However, Kunita et al. teach that the heterocyclic group is attached either to the main chain or the side chain of the main polymer by an appropriate linking chain, including S and thioethers (paragraph 197), but they are silent in regards to the main polymer, implying that one having ordinary skill in the art could choose an appropriate polymer main chain. Kunita et al. further teach the use of Novolac polymers in their invention in paragraphs 191-192. Kinsho et al. teach the desire and ability to incorporate heterocyclic molecules into Novolac chains in order to improve the storage stability (abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to use Novolac polymers as the base of the heterocyclic polymer of Kunita et al. in order to improve the storage stability.

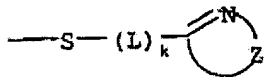
Regarding claim 2, Kunita et al. further disclose "wherein said heterocyclic group is aromatic (paragraph 195)."

Regarding claim 3, Kunita et al. further disclose "wherein said heterocyclic group contains at least one nitrogen atom in the ring of the heterocyclic group (paragraph 196)."

Regarding claim 4, Kunita et al. further disclose "wherein said heterocyclic group has a 5- or 6- membered ring structure, and is optionally annelated with another ring system (paragraphs 195 and 196)."

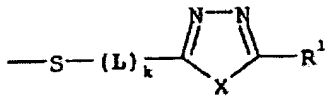
Regarding claim 5, Kunita et al. further disclose "wherein the heterocyclic group is selected from an optionally substituted tetrazole, triazole, thiadiazole, oxadiazole, imidazole, benzimidazole, thiazole, benzthiazole, oxazole, benzoxazole, pyrazole, pyrrole, pyrimidine, pyrasine, pyridasine, triazine or pyridine group (paragraph 196)."

Regarding claim 6, Kunita et al. further disclose "wherein --S-$(L)_k$-Q comprises the following formula



wherein Z represents the necessary atoms to form a 5- or 6- membered heterocyclic aromatic group, and is optionally annelated with another ring system (paragraph 196, specifically those compounds on line 4)."

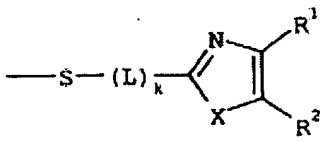
Regarding claim 9, Kunita et al. further disclose "wherein --S-$(L)_k$-Q comprises the following formula



wherein X is 0, S or NR^3, wherein R is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or -L^1--R^2, where in L^1 is a linking group, wherein R^2 is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl,

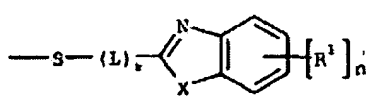
heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or --CN, wherein R^3 is selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from R^1, R^2 and R^3 represent the necessary atoms to form a cyclic structure (paragraph 196, specifically triazine)."

Regarding claim 10, Kunita et al. further disclose "wherein --S-$(L)_k$-Q comprises the following formula



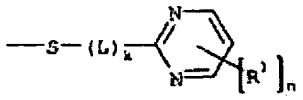
wherein X is 0, S or NR^4, wherein $R^1$and R^2 are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or -L^2--R^3 wherein L^1 is a linking group, wherein R^3 is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or --CN, wherein R^4 is selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from R^1, R^2, R^3 and R^4 together represent the necessary atoms to form a cyclic structure (paragraph 196, specifically those listed on line 4)."

Regarding claim 11, Kunita et al. further teach "wherein the --S-$(L)_k$-Q comprises the following



formula wherein n is 0, 1, 2, 3 or 4, wherein X is 0, S or NR^5, wherein each R^1 is independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, --SO_2--NH--R^2, --NH--SO_2--R^6, --CO--NR^2--R^3, --NR^2--CO--R^6, --NR^2--CO--NR^3--R^4, --NR^2--CS--NR^3--R^4, --NR^2--CO--O--R^3, --O--CO--NR^2--R^3, --O--CO--R^6, --CO--O--R^2, --CO--R^2, --SO_3--R^2, --O--SO_2--R^6, --SO_2--R^2, --SO--R^6, --P(=o)(--O--R^2)(--O--R^3), --O--P(=O)(--O--R^2)(--O--R^3), --NR^2--R^3, --O--R^2, --S--R^2, --CN, --NO_2 or -M--R^2, wherein M represents a divalent linking group containing 1 to 8 carbon atoms, wherein R^2 to R^5 are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R^6 is an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from each R^1, R^2, R^3, R^4, R^5 and R^6 represent the necessary atoms to form a cyclic structure (paragraph 196, specifically lines 8 and 9)."

Regarding claim 12, Kunita et al. further teach "wherein the --S-$(L)_k$-Q comprises the following formula



wherein n is 0, 1, 2 or 3, wherein each R^1 is independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, --SO_2--NR--R^2, --NR--SO_2--R^5, --CO--NR^2--R^3, --NR^2--CO--R^5, --NR^2--CO--NR^3--R^4, --NR^2--CS--NR^3--R^4, --NR^2--CO--O--R^3, --O--CO--

NR^2--R^3, --O--CO--R^5, --CO--O--R^2, --CO--R^2, --SO_3--R^2, --O--SO_2--R^5, --SO_2--R^2, --SO--R^5, --P(=O)(--O--R^2)(--O--R^3), --O--P(=O)(--O--R^2)(--O--R^3), --NR^2--R^3, --O--R^2, --S--R^2, --CN, --NO_2 or -M-R^2, wherein M represents a divalent linking group containing 1 to 8 carbon atoms, wherein R^2 to R^4 are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R^5 is an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from each R^1, R^2, R^3, R^4 and R^5 together represent the necessary atoms to form a cyclic structure (paragraph 196, specifically line 7)."

Regarding claim 14, Kunita et al. further teach "wherein said polymer comprising a phenolic monomeric unit is a novolac, resol or polyvinylphenol (paragraphs 191-192)."

Regarding claim 21, Kunita et al. further teach "wherein said heterocyclic group contains at least one nitrogen atom in the ring of the heterocyclic group (paragraph 194)."

Regarding claim 22, Kunita et al. further teach "wherein said heterocyclic group has a 5- or 6-membered ring structure, and is optionally annelated with another ring system (paragraph 195)."

Regarding claim 23, Kunita et al. further teach "wherein said heterocyclic group has a 5- or 6-membered ring structure, and is optionally annelated with another ring system (paragraphs 195 and 196)."

Regarding claim 24, Kunita et al. further teach "wherein said heterocyclic group has a 5- or 6-membered ring structure, and is annelated with another ring system (paragraphs 195 and 196)."

Regarding claim 25, Kunita et al. further teach "wherein the heterocyclic group is selected from an optionally substituted tetrazole, triazole, thiadiazole, oxadiazole, imidazole, benzimidazole, thiazole, benzthiazole, oxazole, benzoxazole, pyrazole, pyrrole, pyrimidine, pyrasine, pyridasine, triazine or pyridine group (paragraph 196)."

Regarding claim 26, Kunita et al. further teach "wherein said polymer comprising a phenolic monomeric unit is a novolac, resol or polyvinylphenol (paragraphs 190-191 and paragraph 197. See also the discussion above with regards to claim 1)."

Regarding claim 15, Kunita et al. disclose "a heat-sensitive lithographic printing plate precursor (paragraph 2) comprising a support having a hydrophilic surface and an oleophilic coating provided on the hydrophilic surface (paragraph 23), said coating comprising an infrared light absorbing agent (paragraph 23) and a polymer comprising a phenolic monomeric unit (paragraphs 190-191)."

Kunita et al. fail to disclose that the polymer comprises a "phenolic monomeric unit wherein the phenyl group of the phenolic monomeric unit is substituted by" the specified group and that "wherein S is covalently bound to a carbon atom of the phenyl group." However, Kunita et al. teach that the heterocyclic group is attached either to the main chain or the side chain of the main polymer by an appropriate linking chain, including S and thioethers (paragraph 197), but they are silent in regards to the main

polymer, implying that one having ordinary skill in the art could choose an appropriate polymer main chain. Kunita et al. further teach the use of Novolac polymers in their invention in paragraphs 191-192. Kinsho et al. teach the desire and ability to incorporate heterocyclic molecules into Novolac chains in order to improve the storage stability (abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to use Novolac polymers as the base of the heterocyclic polymer of Kunita et al. in order to improve the storage stability.

Regarding claim 19, Kunita et al. further teach "wherein said coating further comprising a latent Bronsted acid and an acid-crosslinkable compound and wherein said precursor is a negative working lithographic printing plate precursor (see, for example, claim 13)."

Regarding claim 27, Kunita et al. further teach "wherein the heterocyclic group is selected from an optionally substituted tetrazole, triazole, thiadiazole, oxadiazole, imidazole, benzimidazole, thiazole, benzthiazole, oxazole, benzoxazole, pyrazole, pyrrole, pyrimidine, pyrasine, pyridasine, triazine or pyridine group (paragraph 196)."

Regarding claim 28, Kunita et al. further teach "wherein --S-$(L)_k$-Q comprises the following formula wherein Z represents the necessary atoms to form a 5- or 6-membered heterocyclic aromatic group, and is optionally annelated with another ring system (paragraph 196, line 4)."

Regarding claim 31, Kunita et al. further teach "wherein --S-$(L)_k$-Q comprises the following formula wherein X is 0, S or NR^3, wherein R is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl,

aralkyl or heteroaralkyl group, halogen or -L^1-R^2, where in L^1 is a linking group, wherein R^2 is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or --CN, wherein R^3 is selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from R^1, R^2 and R^3 represent the necessary atoms to form a cyclic structure (paragraph 196)."

Regarding claim 32, Kunita et al. further teach "wherein --S-$(L)_k$-Q comprises the following formula wherein X is 0, S or NR^4, wherein R^1 and R^2 are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or -L1--R3 wherein L^1 is a linking group, wherein R^3 is selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen or --CN, wherein R^4 is selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from R^1, R^2, R^3 and R^4 together represent the necessary atoms to form a cyclic structure (paragraph 196)."

Regarding claim 33, Kunita et al. further teach "wherein --S-$(L)_k$-Q comprises the following formula wherein n is 0, 1, 2, 3 or 4, wherein X is 0, S or NR^5, wherein each R^1 is independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, --SO_2--NH--R^2, --NH--SO_2--R^6, --CO--NR^2--R^3, --NR^2--CO--R^6, --NR^2--CO--NR^3--R^4, --

NR^2--CS--NR^3--R^4, --NR^2--CO--O--R^3, --O--CO--NR^2--R^3, --O--CO--R^6, --CO--O--R^2, --CO--R^2, --SO_3--R^2, --O--SO_2--R^6, --SO_2--R^2, --SO--R^6, --P(=o)(--O--R^2)(--O--R^3), --O--P(=O)(--O--R^2)(--O--R^3), --NR^2--R^3, --O--R^2, --S--R^2--CN, --NO_2 or -M--R^2, wherein M represents a divalent linking group containing 1 to 8 carbon atoms, wherein R^2 to R^5 are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R^6 is an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from each R^1, R^2, R^3, R^4, R^5 and R^6 represent the necessary atoms to form a cyclic structure (paragraph 196)."

Regarding claim 34, Kunita et al. further teach "claim 28 wherein --S-$(L)_k$-Q comprises the following formula wherein n is 0, 1, 2 or 3, wherein each R^1 is independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, --SO_2--NR--R^2, --NR--SO_2--R^5, --CO--NR^2--R^3, --NR^2--CO--R^5, --NR^2--CO--NR^3--R^4, --NR^2--CS--NR^3--R^4, --NR^2--CO--O--R3, --O--CO--NR^2--R^3, --O--CO--R^5, --CO--O--R^2, --CO--R^2, --SO_3--R^2, --O--SO_2--R^5, --SO_2--R^2, --SO--R^5, --P(=O)(--O--R^2)(--O--R^3), --O--P(=O)(--O--R^2)(--O--R^3), --NR^2--R^3, --O--R^2, --S--R^2, --CN, --NO_2 or -M--R^2, wherein M represents a divalent linking group containing 1 to 8 carbon atoms, wherein R^2 to R^4 are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R^5 is an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl,

aralkyl or heteroaralkyl group, or wherein at least two groups selected from each R^1, R^2, R^3, R^4 and R^5 together represent the necessary atoms to form a cyclic structure (paragraph 196)."

Regarding claim 35, Kunita et al. further teach "wherein --S-$(L)_k$-Q comprises the following formula wherein n is 0, 1, 2 or 3, wherein each R^1 is independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, --SO_2--NR--R^2, --NR--SO_2--R^5, --CO--NR^2--R^3, --NR^2--CO--R^5, --NR^2--CO--NR^3--R^4, --NR^2--CS--NR^3--R^4, --NR^2--CO--O--R3, --O--CO--NR^2--R^3, --O--CO--R^5, --CO--O--R^2, --CO--R^2, --SO_3--R^2, --O--SO_2--R^5, --SO_2--R^2, --SO--R^5, --P(=O)(--O--R^2)(--O--R^3), --O--P(=O)(--O--R^2)(--O--R^3), --NR^2R^3, --O--R^3, --S--R^2, --CN, --NO_2 or -M--R^2, wherein M represents a divalent linking group containing 1 to 8 carbon atoms, wherein R^2 to R^4 are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, wherein R^5 is an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein at least two groups selected from each R^1, R^2, R^3, R^4 and R^5 together represent the necessary atoms to form a cyclic structure (paragraph 196)."

Regarding claims 36 and 37, Kunita et al. further teach "wherein the heterocyclic group is selected from an optionally substituted tetrazole, triazole, thiadiazole, oxadiazole, imidazole, benzimidazole, thiazole, benzthiazole, oxazole, benzoxazole, pyrazole, pyrrole, pyrimidine, pyrasine, pyridasine, triazine or pyridine group (paragraph 196)."

3. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunita et al. and Kinsho et al., as applied to claim 15 above, further in view of applicants' admitted prior art (AAPA).

Regarding claim 16, Kunita et al. teach "wherein said precursor is a positive working lithographic printing plate precursor (claim 16)" but fail to teach "wherein said coating further comprises a dissolution inhibitor." AAPA teaches the use of a dissolution inhibitor (page 22 of applicants' disclosure, last paragraph) in order to control the dissolution rate of the hydrophobic polymer in the developer (page 22, 2nd full paragraph). It would have been obvious to one of ordinary skill in the art at the time of the invention to use dissolution inhibitors in the printing plate of Kunita et al. and Kinsho et al. in order to control the dissolution rate of the hydrophobic polymer in the developer.

Regarding claim 17, AAPA further teaches "wherein said dissolution inhibitor is selected from the group consisting of an organic compound which comprises at least one aromatic group and a hydrogen bonding site, a polymer or surfactant comprising siloxane orperfluoroalkyl units and mixtures thereof (see the entire page 22 of applicants' disclosure)."

4. Claims 7, 8, 13, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunita et al. and Kinsho et al. as applied to claims 1 and 15 above, and further in view of Umeda et al.

Regarding claims 7, 8, 13, 29 and 30, Kunita et al. and Kinsho et al. fail to disclose the specific structures claimed, but Kunita et al. teach the general concept of adding optionally annelated 5-member aromatic heterocyclic rings containing nitrogen (paragraphs 195-196). Umeda et al. discloses the specific structures claimed (see compound II-105) used as anti-oxidants in a photosensitive layer (abstract), and uses them along with the other types claimed by applicants (see the USC 102(b) rejections above). One having ordinary skill in the art would therefore recognize that the specific chemicals claimed in claims 7, 8, 13, 29 and 30 are art-recognized equivalents and would have been motivated to substitute any one for those disclosed by Kunita et al.

Regarding claims 7, 8, 13, 29 and 30, see the compound II-105 of Umeda et al. This compound meets the general structure of all the claims.

Response to Arguments

Applicants' arguments filed 10/13/2006 have been fully considered but they are not persuasive.

5. Regarding applicants' argument that the compounds cited in Umeda et al. are not polymers, applicants are referred to the subscripts of those compounds cited, indicating a repeating unit. Therefore, the compounds cited are polymers.

6. Applicants further argue that Kunita et al. do not teach the use of a phenolic monomeric unit as the base chain. This is admitted in the previous office action on pages 3 and 9. However, Kunita et al. teach the use of novalac resins as binder polymers in paragraphs 191 and 192. While applicants' argument that the use of novalac resins as the binder polymer is a different embodiment than that cited in paragraphs 193ff, paragraph 198 states that all the different polymers could be used in combination, bringing novalac polymers into any other embodiment.

Regardless, paragraph 194 broadly teaches that polymers enhanced with side chains having heterocyclic groups result in produced films having excellent tolerance to repeated printings. Paragraph 197 further teaches which linking groups should be used in order to enhance the film strength. Further Kinsho et al., as stated previously, also teach adding heterocyclic groups to novalac resin base chains to improve the workability of the polymers. While Kunita et al. is indeed silent to specifically using novalac resins as the base chain for modification, the polymers listed in paragraph 197 are simply "examples" and one having ordinary skill in the art would be motivated to seek out all teachings regarding modifying base chains with heterocyclics, especially Kinsho et al. Clearly these teachings, when taken together, would motivate one having ordinary skill in the art to have novalac base chains modified with heterocyclic groups which are linked by appropriate linking groups in order to obtain a polymer with superior durability.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D. Zimmerman whose telephone number is 571-272-2749. The examiner can normally be reached on M-R 8:30A - 6:00P, Alternate Fridays 8:30A-5:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joshua D Zimmerman
Examiner
Art Unit 2854

jdz

JUDY NGUYEN
SUPERVISORY PATENT EXAMINER